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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,791	12/24/2003	Shang-Hyeun Park	030681-613	9820
21839	7590	07/05/2006	EXAMINER	
BUCHANAN INGERSOLL PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,791

Applicant(s)

PARK ET AL.

Examiner

Elizabeth A. Rielley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

Amendment filed 4/6/06 has been entered and considered by the Examiner. Claims 7-20 have been canceled. Currently, claims 1-6 are pending in the instant application.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duboc (US 5541473) in view of Applicant's stated prior art.

In regard to claim 1, Duboc teaches a field emission display (figure 2; column 5 line 38 to column 8 line 60), comprising: an anode plate (220) where an anode electrode (221) and a fluorescent layer (22a, 22b) are formed; a cathode plate (201) where an electron emission source emitting electrons toward the fluorescent material layer (221a, 211b; see figure 2) and a gate electrode (212b) having a gate hole (210a, 210b) through which the electrons travel are formed; a mesh grid (214) having an electron control hole corresponding to the gate hole (210a, 210b) and adhered to the cathode plate (see figure 1), and an insulation layer (213) formed on a surface of the mesh grid (214) facing the cathode plate (see figure 1); and spacers (230) provided between the anode plate and the mesh grid (see figure 1). Duboc does not specifically teach that the mesh grid can be adhered to the cathode plate due to a negative pressure

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existing between the anode plate and the cathode plate. However, Applicant's Specification on page 3 lines 7-12 teach that is known in the art that when a negative pressure exists between the anode and cathode plate due to a vacuum within the FED, the negative pressure adheres the mesh grid onto the cathode plate. Duboc teaches the FED comprising a vacuum (column 1 lines 33-46). The MPEP states that "[w]here the specification identifies work done by another as "prior art," the subject matter so identified is treated as admitted prior art. In re Nomiya, 509 F.2d 566, 571, 184 USPQ 607, 611 (CCPA 1975). Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the FED of Duboc with the negative pressure of the Applicant's admitted prior art. Motivation to combine would be to more firmly adhere the anode and cathode plate together.

In regard to claims 2-4, Duboc teaches all the limitations set forth, as described above, except that the mesh grid is formed of Invar and the insulation layers are formed of SiO<sub>2</sub>. It would have been obvious at the time of the invention to one of ordinary skill in the art to make the mesh grid is formed of Invar and the insulation layers are formed of SiO<sub>2</sub>, since it was known in the art that SiO<sub>2</sub> is an excellent insulator in displays<sup>1</sup> and Invar was used for mesh screens<sup>2</sup>. In regard to applicant's recitation of the insulation layer being formed by printing, the Examiner notes that the recitation is considered a product by process limitation. It has been recognized that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process," *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See also MPEP 2113. Accordingly, Duboc's teaching of an insulating material is considered to meet the claimed recitation.

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<sup>1</sup> See US patent 5186670.

In regard to claims 5 and 6, Duboc teaches the insulation layer (213) formed on the mesh grid (214) directly contacts a surface of the gate electrode (212; see figure 2).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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<sup>2</sup> See US patent 4613785.

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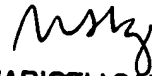
direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



*Elizabeth Rielley*

*Examiner*

*Art Unit 2879*



**MARICELI SANTIAGO  
PRIMARY EXAMINER**